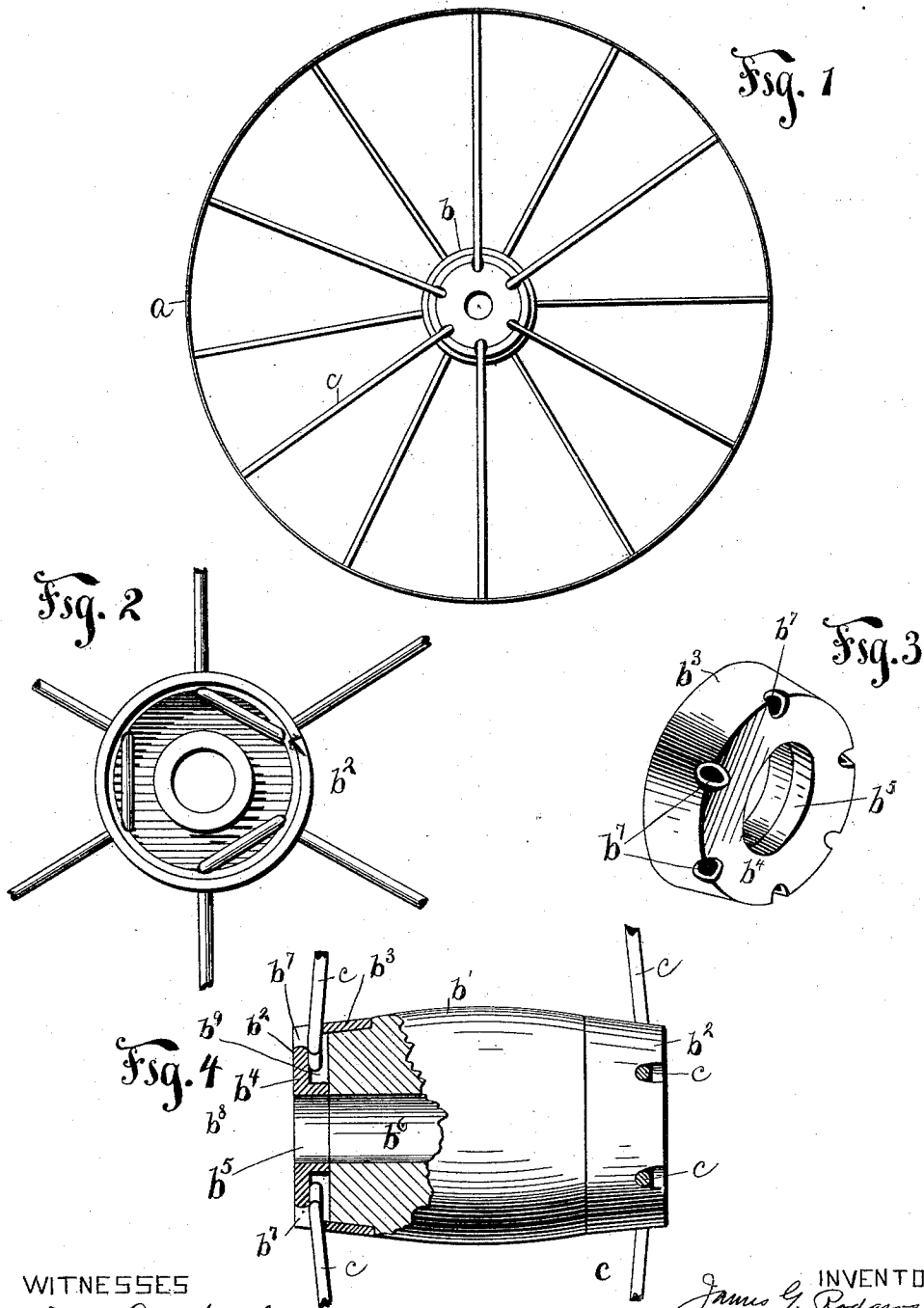


(No Model.)

J. G. RODGERS & A. W. GRANT.
VEHICLE WHEEL.

No. 468,538.

Patented Feb. 9, 1892.



WITNESSES

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UNITED STATES PATENT OFFICE.

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ASSIGNORS TO THE TRICYCLE MANUFACTURING COMPANY, OF
SAME PLACE.

VEHICLE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 468,538, dated February 9, 1892.

Application filed August 24, 1891. Serial No. 403,552. (No model.)

To all whom it may concern:

Be it known that we, JAMES G. RODGERS and ARTHUR W. GRANT, citizens of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Vehicle-Wheels, of which the following is a specification.

Our invention relates to improvements in vehicle-wheels; and the object of our invention is to provide a cheap and simple vehicle-wheel of the suspension-type, adapted for use with children or doll carriages and similar purposes.

Our invention consists in the constructions and combinations of parts hereinafter described, and set forth in the claims.

In the accompanying drawings, Figure 1 is an elevation of a wheel embodying our invention. Fig. 2 is a side elevation of one of the hub bands or caps, showing the manner of attaching the spokes thereto. Fig. 3 is a perspective view of the band or cap in detail. Fig. 4 is a partial section view of the wheel hub.

Like parts are indicated by similar letters of reference in the several views.

In the said drawings, *a* represents the tire, which is preferably formed of an endless band of metal.

b is the hub, the central portion *b'* of which is formed of wood capped over at the ends with metallic bands *b²*.

c is the spokes, which unite the hub and rim in the following manner.

The bands or caps *b³* are provided with lateral projecting flanges *b⁴*, adapted to fit on the end of the wooden hub *b'*, which is turned down or recessed and shouldered to receive said bands, so that the outer periphery thereof stands flush with the outer periphery of the wooden hub, as shown in Fig. 4. The main portion *b⁴* of the cap or band is provided with a central opening *b⁵*, which forms a continuation of the axle bearing or opening *b⁶* through the hub. This band or cap *b³* is provided with a series of openings *b⁷* in its outer periphery, through which the spokes are looped, as shown in Fig. 2, said spokes being formed of a U-shaped piece of wire or metal, the ex-

terminities of which are passed through two adjacent openings *b⁷*, so that each wire or metallic piece forms two spokes, which are united at their outer extremities to the metallic rim by riveting or in any other well-known and suitable manner. The caps are so placed on the ends of the respective hubs that the spoke-openings *b⁷* in the respective caps are staggered—that is, each opening in one band stands opposite the space between the openings in the other band or cap, so that the spokes from each band or cap are connected to the outer rim or tire between the respective spokes of the other band or cap.

To provide for readily inserting the spokes we preferably form the openings *b⁷* at the angle or corner between the flange *b⁴* and the body *b⁴* of said band or cap, so that part of the opening is in the body and part in the outer peripheral flange. I preferably provide about the central opening *b⁵* in said band or cap an inner projecting rim or flange *b⁸*, adapted to rest against the end of the hub proper, and thus form a chamber *b⁹* between the end of the hub and the body of the cap, within which the U-shaped portion of the spoke is inclosed.

The outer ends of the spokes are united to the tire or rim in the same plane, the spokes being bent inwardly from the opposite ends of the hub for this purpose. The loop between each of the two spokes is thus brought firmly against the body *b⁴* of the band on one side and the spokes against the opposite side of the openings *b⁷*, thus clamping said spokes firmly in said band.

It will be seen that as thus described a simple and cheaply-constructed wheel is secured which answers all the purposes of the more expensive wheels in the cheaper class of vehicles of the kind specified.

It may be desirable in some cases to insert in the wooden hub a metallic bush or sleeve, this construction being especially desirable when the wheel is intended to be used with metallic spindles or axles.

Having thus described our invention, we claim—

1. In a wheel, the combination, with a wooden hub, of metallic caps fitted on the re-

spective ends of said hub and provided with a central opening in line with the axis of said hub, projecting peripheral flanges which fit over the ends of said hub, openings in said
5 flanges, a projecting boss or sleeve about the central opening adapted to contact with the end of said hub, so as to form a chamber at the end of each hub within said cap, and spokes uniting said caps to the wheel-rim,
10 substantially as specified.

2. In a vehicle-wheel, a hub formed with a wooden core and metallic caps fitted over each end of said core, each of said caps being provided with a central opening, and a sur-

rounding sleeve or boss adapted to contact 15 with the end of said core when the cap is in its normal position on said core, and peripheral openings at the ends of said caps through which the spokes may be looped, substantially as specified. 20

In testimony whereof we have hereunto set our hands this 7th day of August, A. D. 1891.

JAMES G. RODGERS.
ARTHUR W. GRANT.

Witnesses:

PAUL A. STALEY,
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